

This thesis concerns with rational points on elliptic curves. By the Mordell theorem we know that the group of rational points on elliptic curve is finitely generated. First, we study torsion subgroup, which turns out to be well described by theorem of Nagell-Lutz. Next, we focus on torsion-free part, which is characterized by the notion of rank. The thesis consists of solved problems and we also provide a summary of theoretical foundations. We find points of finite order on particular elliptic curves and compute their ranks.